WHAT IS CLAIMED IS:

1.   A method of controlling a frame rate; the method comprising:

   writing source data to a buffer and updating a write pointer;

   reading the source data from the buffer and updating a read pointer;

   comparing the write pointer and the read pointer; and

   adjusting a frequency of the reading responsive to the comparing.

2.   The method of claim 1 further comprising:

   receiving an analog image source signal from an image source; and

   generating the source data by converting the image source signal to

   digital form.

3.   The method of claim 1 wherein the writing comprises writing the source data to the buffer at an image source frequency.

4.   The method of claim 3 wherein the reading comprises reading the source data from the buffer at a display frequency.

5.   The method of claim 4 wherein the adjusting comprises configuring a read control component to read the source data from the buffer at the image source frequency.

6.   The method of claim 1 wherein the comparing comprises detecting a buffer overflow condition.

7.   The method of claim 6 wherein the adjusting comprises selecting a frequency for the reading to correct the buffer overflow condition.

8.   The method of claim 1 wherein the comparing comprises detecting a buffer underflow condition.

9.   The method of claim 8 wherein the adjusting comprises selecting a frequency for the reading to correct the buffer underflow condition.

10.   The method of claim 1 further comprising modifying the source data in accordance with capabilities of a display device.

11.   The method of claim 10 wherein the modifying comprises applying a scaling algorithm.

12.   A frame rate control system comprising:

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a buffer;

a write control component configured to write data frames to the buffer at an image source signal frequency; and

a read control component selectively operative to read the data frames from the buffer at a selected one of a plurality of display frequencies.

13.   The system of claim 12 further comprising:

a scaler operative to modify the data frames in accordance with capabilities of a display device.

14.   The system of claim 12 wherein the selected one of the plurality of display frequencies is equal to the source signal frequency.

15.   The system of claim 12 further comprising:

a detector operative to receive information related to a write pointer from the write control component and to receive information related to a read pointer from the read control component; wherein the detector is further operative to detect a buffer overflow condition or a buffer underflow condition based upon a comparison of the information related to a write pointer and the information related to a read pointer.

16.   The system of claim 15 wherein the detector is further operative to output a first signal responsive to the buffer overflow condition and to output a second signal responsive to the buffer underflow condition.

17.   The system of claim 16 wherein the selected one of the plurality of display frequencies is selected in accordance with the first signal or the second signal.

18.   The system of claim 12 further comprising a frequency controller configuring the read control component to operate at the selected one of the plurality of display frequencies.

19.   The system of claim 18 wherein the frequency controller comprises a phase locked loop.

20.   The system of claim 18 wherein the frequency controller is responsive to both a buffer overflow condition and a buffer underflow condition.

21.   A method of controlling a frame rate of a display signal for a destination video display device; the method comprising:

receiving an image source signal comprising source data;

writing the source data to a buffer at a source frequency and updating a write pointer;

reading the source data from the buffer at a display frequency and updating a read pointer;

comparing information related to the write pointer and information related to the read pointer;

responsive to the comparing, detecting a buffer overflow condition or a buffer underflow condition;

modifying the source data in accordance with capabilities of the destination video display device; and

responsive to the detecting, adjusting the display frequency in accordance with the buffer overflow condition or the buffer underflow condition.

22.   The method of claim 21 wherein the image source signal is analog, and further comprising generating the source data by converting the image source signal to digital form.

23.   The method of claim 21 wherein the adjusting comprises configuring a read control component to read the source data from the buffer at a selected one of a plurality of display frequencies supported by the destination video display device.

24.   The method of claim 23 wherein the adjusting comprises identifying one of the plurality of display frequencies to correct the buffer overflow condition or the buffer underflow condition.

25.   The method of claim 21 wherein the modifying comprises applying a scaling algorithm.

26.   The method of claim 25 wherein the adjusting is a function of the detecting and the modifying.

27.   The method of claim 21 wherein the adjusting comprises utilizing a phase locked loop.

28.   The method of claim 21 wherein the destination display device is a liquid crystal display.

29.   The method of claim 24 wherein the adjusting comprises increasing the display frequency responsive to a buffer overflow condition and decreasing the display frequency responsive to a buffer underflow condition.

30.   The method of claim 26 wherein the adjusting comprises increasing the display frequency when the modifying comprises adding data to the source data and decreasing the display frequency when the modifying comprises deleting data from the source data.

31.   A frame rate control system providing display signals to a video display device; the system comprising:

    a source signal interface receiving an image source signal;

    a buffer;

    a write control component operative to receive the image source signal and to write data frames from the image source signal to the buffer at an image source signal frequency; and

    a read control component selectively operative to read the data frames from the buffer at a selected one of a plurality of display frequencies.

32.   The system of claim 31 further comprising:

    a scaler operative to modify the data frames in accordance with capabilities of the video display device.

33.   The system of claim 31 wherein the selected one of a plurality of display frequencies is equal to the source signal frequency.

34.   The system of claim 31 further comprising a frequency controller configuring the read control component to operate at the selected one of a plurality of read frequencies.

35.   The system of claim 34 wherein the frequency controller comprises a phase locked loop.

36.   The system of claim 34 further comprising:

a detector operative to receive information related to a write pointer from the write control component and to receive information related to a read pointer from the read control component; wherein the detector is further operative to detect a buffer overflow condition or a buffer underflow condition based upon a comparison of the information related to a write pointer and the information related to a read pointer.

37.   The system of claim 36 wherein the frequency controller is responsive to signals received from the detector representative of the buffer overflow condition or the buffer underflow condition.

38.   A computer readable medium encoded with data and computer executable instructions for controlling a frame rate of signals for a display device, the data and instructions causing an apparatus executing the instructions to:

write video frame source data to a buffer at a source frequency and update a write pointer;

read the source data from the buffer at a display frequency and update a read pointer;

compare the write pointer to the read pointer; and

responsive to a comparison of the write pointer and the read pointer, adjust the display frequency.

39.   The computer readable medium of claim 38 further encoded with data and computer executable instructions and further causing an apparatus executing the instructions to:

receive an analog image source signal from a source;

convert the analog image source signal to a digital source signal; and

generate the video frame source data from the digital source signal.

40.   The computer readable medium of claim 38 further encoded with data and computer executable instructions and further causing an apparatus executing the instructions to:

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configure a read control component to operate at a selected one of a plurality of display frequencies supported by the display device.

41. The computer readable medium of claim 38 further encoded with data and computer executable instructions and further causing an apparatus executing the
5 instructions to:

apply a scaling algorithm operative to modify the source data in accordance with capabilities of the display device.

42. The computer readable medium of claim 38 further encoded with data and computer executable instructions and further causing an apparatus executing the
10 instructions to:

increase the display frequency responsive to a buffer overflow condition; and

decrease the display frequency responsive to a buffer underflow condition.

15 43. The computer readable medium of claim 41 further encoded with data and computer executable instructions and further causing an apparatus executing the instructions to:

increase the display frequency when the scaling algorithm adds data to the source data; and

20 decrease the display frequency when the scaling algorithm deletes data from the source data.

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